



UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: **HIWATA, Akira, et al.**

Group Art Unit: **3744**

Serial No.: **10/657,182**

Examiner: **To be assigned**

Filed: **September 9, 2003**

P.T.O. Confirmation No.: **1620**

For: **EXPANDER**

INFORMATION DISCLOSURE STATEMENT
PURSUANT TO 37 CFR 1.97(b)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

January 28, 2004

Sir:

The attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached Form PTO-1449. These documents were cited in an European Search Report. A copy of the European Search Report and one copy of each of these documents is attached.

No fee or certification is required in connection with this Information Disclosure Statement, since it is being submitted prior to the issuance of a first official action on the merits or expiration of the three month period following the filing date or the entry of the national stage of the above-captioned application.

The above information is presented so that the Patent and Trademark Office can, in the first instance, determine any materiality thereof to the claimed invention. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the documents cited in the attached Form PTO-1449 be made of record therein and appear on the first page of any patent to issue therefrom.

The Commissioner is authorized to charge our Deposit Account No. 01-2340 for any fee which is deemed by the Patent and Trademark Office to be required to effect consideration of this statement.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP


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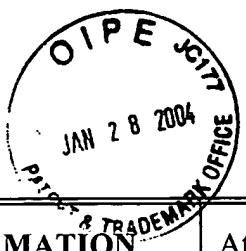
DWH/plb
Atty. Docket No. **031053**
Suite 1000
1725 K Street, N.W.
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PATENT TRADEMARK OFFICE

Enclosures: European Search Report, PTO-1449 (2) and references (15)

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**INFORMATION
DISCLOSURE
CITATION
PTO-1449**

Atty. Docket No. 031053 Serial No. 10/657,182

Applicant(s): HIWATA, Akira, et al.

Filing Date: September 9, 2003 Group Art Unit: 3744

U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Name	Date	Class	Subclass	Filing Date (If appropriate)
_____	AA	4,174,931	ISHIZUKA	11-20-79	418	259
_____	AB	4,498,853	SAKAMAKI et al.	2-12-85	418	268
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_____	AF	WO 99/02862	1-21-99	PCT
_____	AG	2001-207983	8-3-01	Japan abstract
_____	AH	10-19401	1-23-98	Japan abstract
_____	AI	25 44 232	7-1-76	Germany no
_____	AJ	2 261 873	6-27-74	Germany no

OTHER DOCUMENTS

_____	AK	Douglas M. Robinson et al. "Efficiencies of transcritical CO ₂ cycles with and without an expansion turbine"; International Journal of Refrigeration, vol. 21, no. 7, November 1998 (pages 577-589)
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Examiner

Date Considered



INFORMATION DISCLOSURE CITATION PTO-1449	Atty. Docket No. 031053	Serial No. 10/657,182
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	Filing Date: September 9, 2003	Group Art Unit: 3744

U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Name	Date	Class	Subclass	Filing Date (If appropriate)
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_____	AO					
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_____	AT			
_____	AU			

OTHER DOCUMENTS

_____	AV	
Examiner _____		Date Considered _____